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LET US HAVE SCIENTIFIC BASES FOR PLANNING

by

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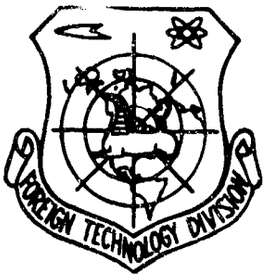

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The authors ~~ask in this discussion,~~ where do the "planners' fit in," in the scheme of things. Why is so much written on collaboration of science and industry? They feel planning should have a place in industry and that there should be an organized long term plan which would help scientists and industry. In doing so, research could move at a sharper pace and excel in new experiments. In this way more economy for the country could be realized.

LET US HAVE SCIENTIFIC BASES FOR PLANNING

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Much is said and written about the collaboration of science with industry (production). Unfortunately, however, significantly less is written about planning, the final stage of scientific research and, at the same time, the first stage of the formation of new industry.

Now, planning is the catalyst of the reaction of the assimilation by industry of the newest achievements of science, and the fact that from 10 to 15 years sometimes pass from the birth of an idea until we see an industrial model is in great degree explained by the overloading and insufficient equipping of our planning and design organizations.

Do we have sufficient appreciation of this important link which connects science and industry?

At one time there were actually many prominent academicians among the planners. Now, however, you will rarely encounter even masters of science. The cause lies in the fact that in ordinary understanding there exists only the duo "science - industry" and not the trio "science - planning - industry." The middle link of this triad is not being assigned its due worth, and this leads to unpleasant consequences.

More than seven hundred thousand persons are occupied in scientific work in our country, while there are only half a million in

planning. The result is that for every seven persons carrying on research there are only five occupied with the conversion of scientific results into plans.

Can it be that there have come to be a great many scientists in our country? Not so. We do not have a surplus of scientists, and, what is more, we do not have enough planners coming to this field from two or three years in industry rather than straight from their school desks.

The underrating of the planning link also comes to light on examining another aspect – that of rights. Planning institutes do nct have the rights given to scientific research institutes and industrial enterprises. The people in planning do not enjoy the privileges established for those in scientific institutes. For this reason questions like the following are often discussed in the press: "Why is it that experienced engineers do not often go into planning work at mining enterprises? An engineer – a mining expert is deprived of many privileges when he comes to the planning department. Is this right?"

The underestimation of planning as a link connecting science with industry is unavoidable reflected in its quality. High quality planning means engineering decisions which combine the newest achievements and prognoses of science with practical experience. These are decisions which guarantee not only the utmost technical-economic efficiency of the created industry and a sharp increase – three-, five-, or enen 10-fold – in labor productivity, but also reliable safety engineering. They guarantee as well a complete utilization of waste materials and protection of labor and nature without exception.

But we are still planning very few undertakings which revolutionize their field of industry. Not because there are no needed ideas; there are plenty of them! The periods allotted for compiling ideas, do not, as a rule, leave time so that these ideas might be developed for a given industry, so that the technology discovered in the "test-tube" might be carried through in a semi-industrial setting. As is known, technical tasks for planning are usually formulated in the most general

aspect, and only one element is noted clearly and incontestably – the allotted time!

In order to keep within it planners follow the beaten tracks, and cannot, as a rule, allow themselves investigations, new paths. These things may be more progressive, but they require additional expenditures of time. But that is not all. Working on a project, its authors are obliged to orient themselves only to serially produced equipment, even if it is outdated in comparison with experimental models which are new, but not yet in mass production.

We shall give an example to show what this leads to. Ten years ago, Academician I. Artobolevskiy showed the enormous advantage of applying vibro-technology to any branch of the national economy. And then what? Years have passed, but as yet this progressive trend in the field of technological processes has not gone beyond the bounds of laboratory research, for industry does not produce the appropriate equipment. The reason for this is that there are no orders for its development and manufacture. And not at all because there are not those who would like to make application of new things in industry. The trouble is that a project serves as the basis of an order, and new equipment cannot be installed in a project if the equipment has not been assimilated by industry. Thus, the circle is closed. As a result, we are sharply behind in the introduction of new techniques.

How can we overcome this incongruity? One of the solutions is proposed by Academician V. Trapeznikov in the article "Enterprises of the Future" (Izvestiya, No. 115, 1967). It is a question of sensible organization of long-term and investigative planning which would create a "suspense file of unfinished business" on technical solutions for current work. If "enterprises of the future" are planned for every field, then the national economy will benefit without a doubt.

However, this still will not eliminate the primary cause of the majority of the troubles of current planning – unthinking willfulness in setting up deadlines for the fulfillment of plans and in curtailment of the stages of planning. Such stages as the technical plan are especially often excluded.

It is precisely in these places that the planners' adversities most often arise: in the discrepancies between estimated and actual cost of capital construction; in "putting the finishing touches" on technology not completely worked out in the plans in an undertaking which is already set up; in costly alterations and redesigning of almost-completed units; and in cases where everything alive around the factory perishes.

True, the blame for bad projects does not always lie with the planners alone. Those who approve projects are also often carried away by economy for show. This is seen when they assign expenditures, which at first glance seem superfluous, to a subsequent stage or cut them out completely. The enthusiasm for "economy" not held in check by comprehensive and sober calculation also appears elsewhere: in the wasteful handling of agricultural lands, in the creation of unnecessary "seas," etc. After all, there were water-power projects which foresaw the inundation of the huge land mass on the lower course of the river Ob' where petroleum deposits have now been found, and of the Volga-Aktubinsk floodlands, which are capable of supplying the center and North of European USSR with melons and truck-garden products of unexcelled quality, etc.

So that projects might answer modern technical requirements there has been set up a system of carrying out scientific research and experimental design jobs in the process of planning. As practice has shown, this allows one to obtain the necessary means operatively and without hindrance. From the financial point of view the path to a raising of the technological level of project solutions has been found. But now what connection does this have with the time set aside for the drawing-up of projects? Why, none at all! Directions do not solve this problem, and enlisting the services of specialized institutes means wrecking the "assigned" deadlines.

Speaking about scientific planning, a rule should be adopted that the deadline for handing over a project is established on the basis of network structure of its development. Of course the approving party has the right to introduce motivated corrections, but in any case he is obliged to consider computations of expended time. Then the

requirements of Gosstroy SSSR (The State Committee of the Council of Ministers, USSR, for Construction) for execution of scientific research work necessary for a project would become really feasible. Then technical progress in matters of planning would actually be assured.

But the essence of the matter does not lie in this alone. Planners, mainly young specialists, as is known, often transfer to scientific research organizations. There is no movement in the opposite direction. With some this is caused by a striving for creative growth, for the acquisition of a scholarly degree, for more profound work in the chosen specialty, among others by the somewhat mercenary desire to "settle down and become established." But the main cause is the fact that the planner – a creative worker by nature – cannot in the conditions of today's haste and hurry fully devote himself to creative work. The Damocles Sword of time hangs over him constantly. The oppressive feeling that a man whose duty it is to think is turning into a rubber-stamp obviously also forces him to forsake the planning institute.

Let us sum up. Planning should enjoy equal rights in the "science - planning - industry" triad. The sooner an end is put to the belittling of its role and the infringement of its rights, the greater will be the gain derived by the national economy. A greater role for investigative research and long-range planning, the carrying out of research and experimental-design jobs in the process of current planning, scientifically based time allotments for the turning over of projects – these are the roads to an increase in the quality of planning work in our country.